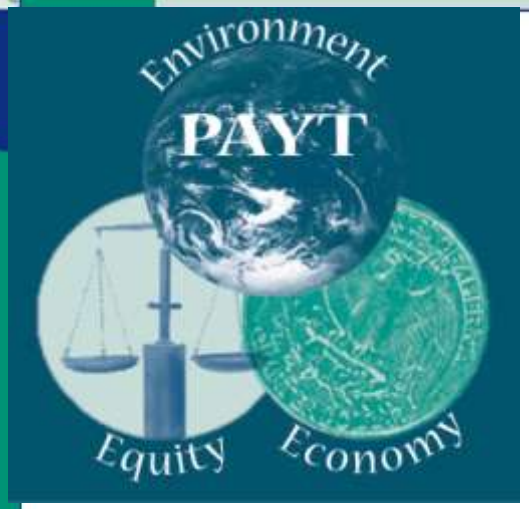


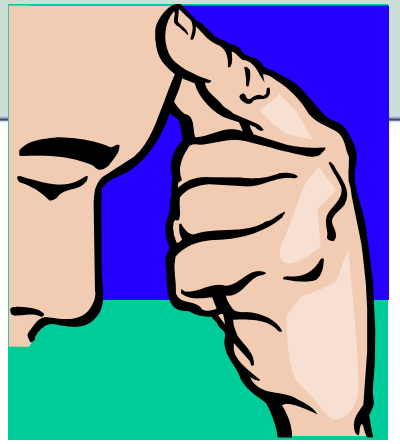
Getting SMART in Kansas – Saving Money and Reducing Trash

Jennifer Dawani, US EPA, Region 7

Julie Coon, Johnson County

Kansas WORKS - March 23, 2011

What's Ahead?



- What is SMART?
- Benefits
- National picture
- SMART in Kansas
- SMART in Johnson County
- Resources
- Q & A

What is SMART?

- Volume-based fees
- Unit-based pricing
- Variable rates
- Trash utility fees
- Incentive-based system
- **Pay-As-You-Throw**

PAYT is a **SMART** way to **S**ave **M**oney **A**nd **R**educe **T**rash

PAYT Works… Like a Utility

SMART residents do
continually change behavior
towards waste reduction

Increasing Recycling Participation

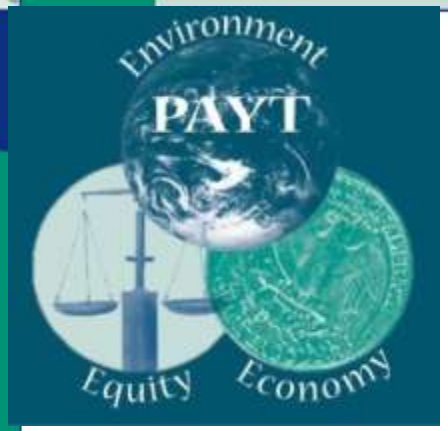
- Education and Outreach
- Access and Convenience of Recycling
  - Curbside, container size and type, single-stream
- More direct incentives
  - Recycle Bank
  - Pay As You Throw

"3 E" Benefits

Environmental Benefits

- Increases recycling, composting, AND source reduction
  - Cuts residential waste **nearly in half** (Duke & MA Data). 400-600 pounds per capita annually
  - Recycling and composting **increases approx. 2/3** (SERA & MA Data)
  - Source reduction **increases approx. 1/3** (SERA & MA Data)
- Does not promote consumption
- Reduces greenhouse gases

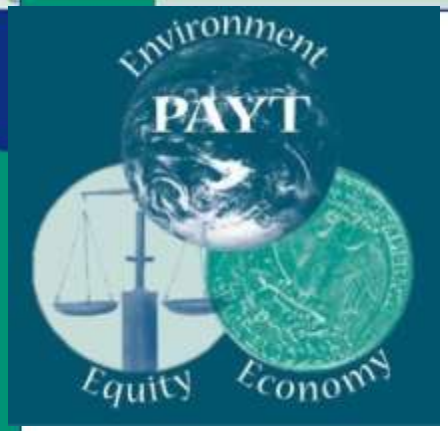
"3 E" Benefits



Economic Benefits

- Main driver for most cities
- Savings at the landfill + Recycling revenue
- Does not increase household costs
- Ft Worth, TX saved **> $7 million** on disposal, Earned $540,000 from recycled materials in one year
- Worcester, MA saved **>$1.2 million** in SWM costs. Increased recycling from 3% to 36% immediately after adopting PAYT in 1993
- Other opportunities

"3 E" Benefits

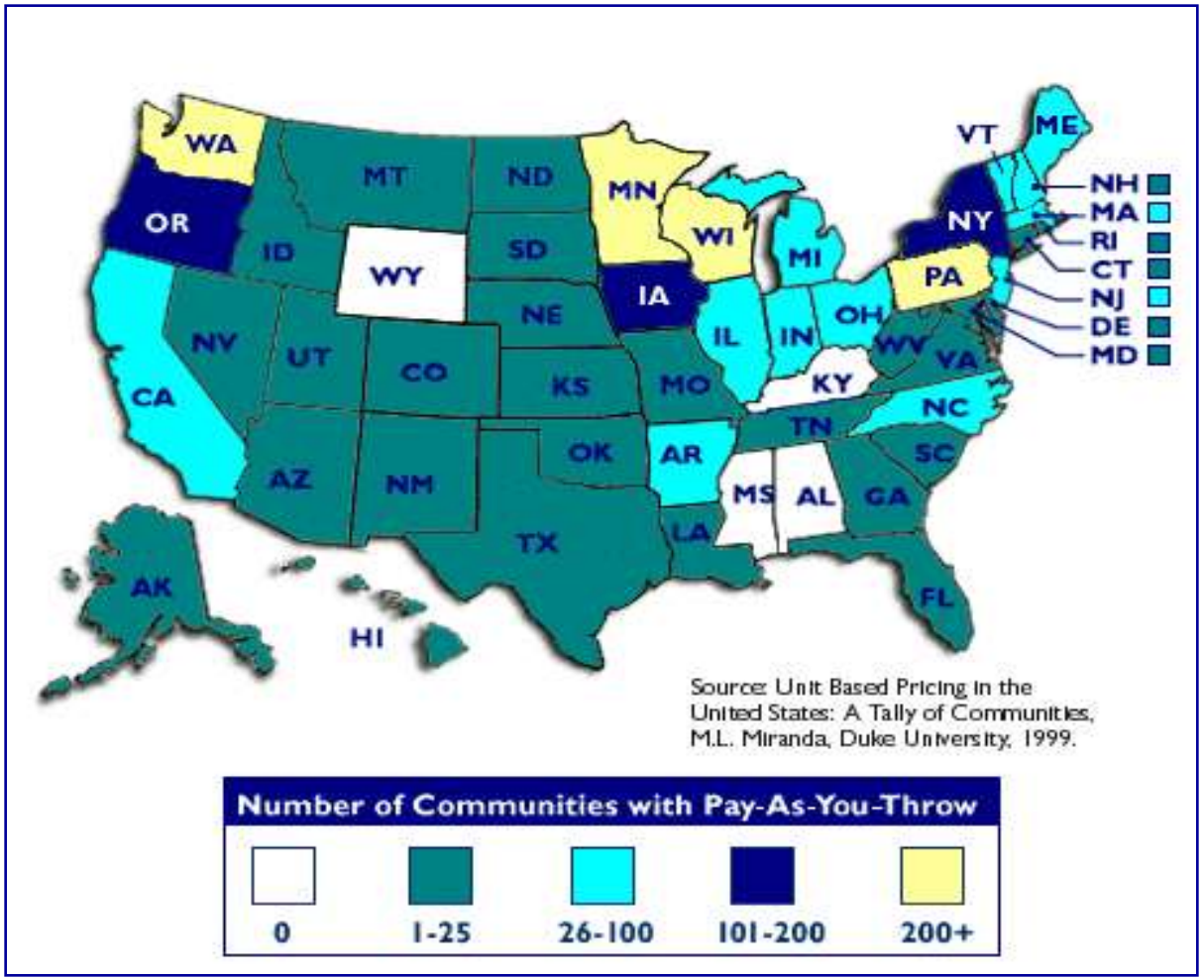


Equity

- Fair & transparent like a utility
- Singles, small families, or conscientious recyclers do not help to subsidize lower rates for those generating more waste
- In many cases, changes from open, free-market system needed to provide same level of service to all

Successes—PAYT

More than 7,100 PAYT cities in the U.S.



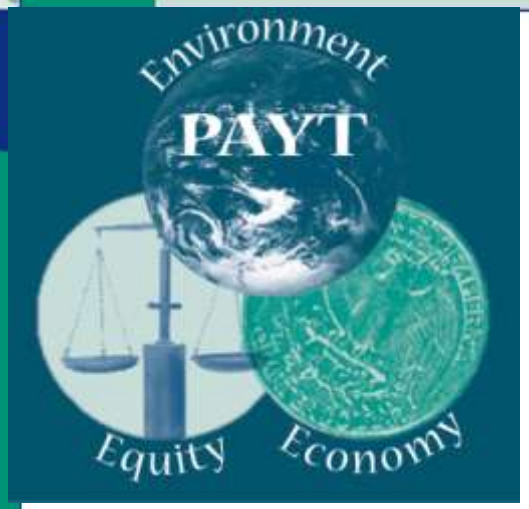
Tally data based on SERA: Skumatz Economic Research Associates, 2006

SMART in Kansas

- Dramatic Growth
  - 7 programs in 2006
  - Currently more than 50 (Skumatz Economic Research Associates)
- Johnson County
  - Leawood – population 30,000
- Shawnee County / Topeka – 42,000 homes
  - Min. service = 32 gal – $11.48 / $12.52 (no extra items)
  - Full service = 90 gal - $15.26 / $16.50 – (also incl. one bulky items ea wk, 15 bags yard waste)
- Paola – population 5,385
    - 96 gal max, extra bags $1.50

SMART in Kansas

- Butler County
  - Andover - population 10,500
    - Max. 96 gal. + 1 small bag
  - El Dorado – population 12,600
    - Max 64 gal., extra bags $0.50
- Sedgwick County
  - Derby – population 22,000
    - 65 gal $39.27 / qtr.
    - 95 gal $45.43 / qtr.
    - Also has RecycleBank

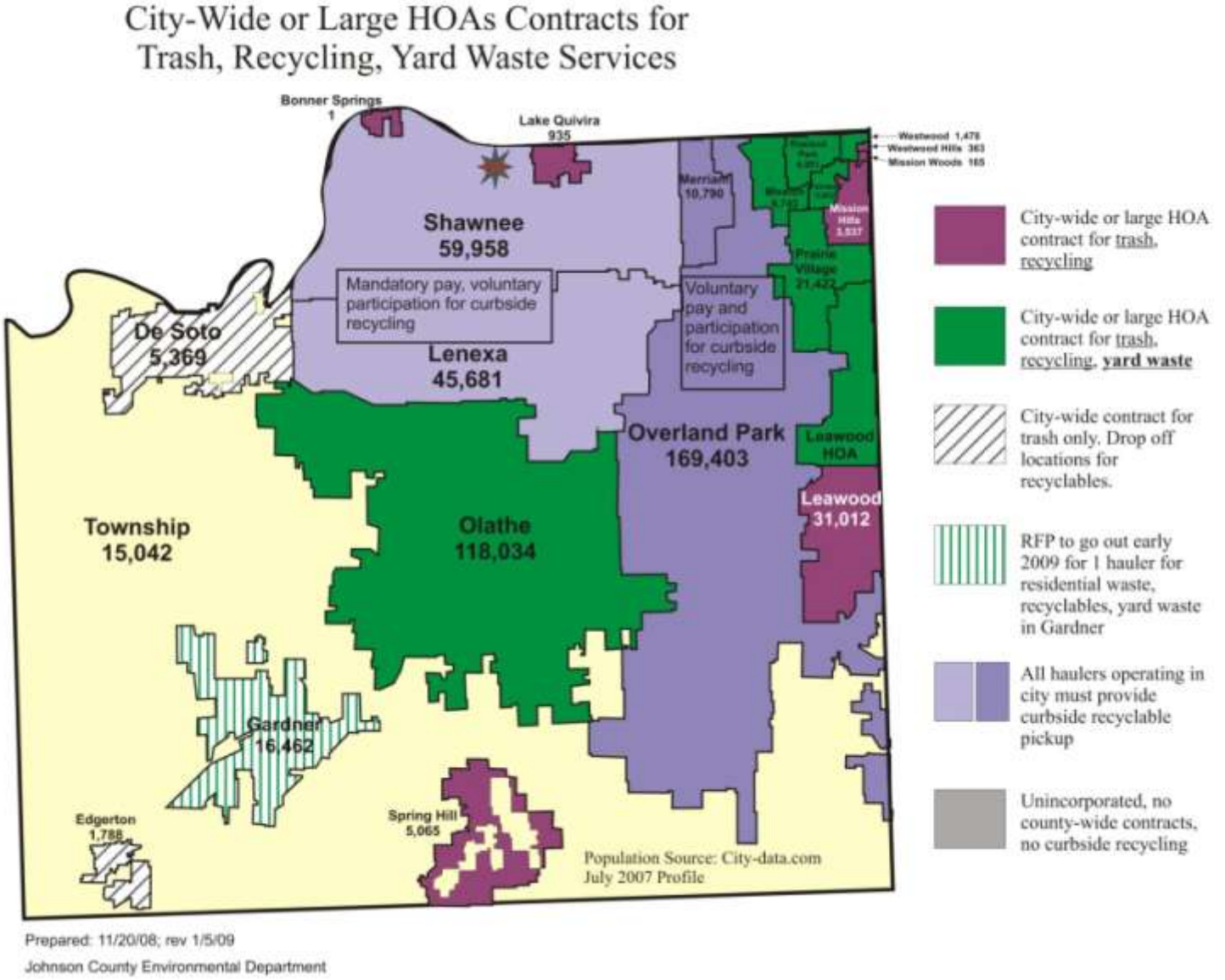


Johnson County and SMART

Johnson County, KS: Background

- Aprx. 500,000 residents
- 19 cities
- Hundreds of Homes Associations
- 11 residential waste haulers (public and private)
- Every combination of service you can imagine

Johnson County cities, sizes & services



Johnson County, KS Waste Stats

- Johnson County Landfill, owned by

Deffenbaugh Industries, Inc

  - Receives 82% of waste generated in Johnson County

- City owned/operated Transfer Station in Olathe
  - Waste is transferred to Hamm Landfill outside of county
- 22.6% diversion rate (national average 34%)
- 4.73 lb/person/day (2005)

Why PAYT?

- Goal: to have the same services offered to all residents in the county
  - Unlimited Recycling
  - Separate collection of yard waste
  - Pay-as-you-throw

- Goal: incentivize and increase recycling
- Goal: reduce waste going to area landfills
- Goal: keep costs low

What's at risk for stakeholders?

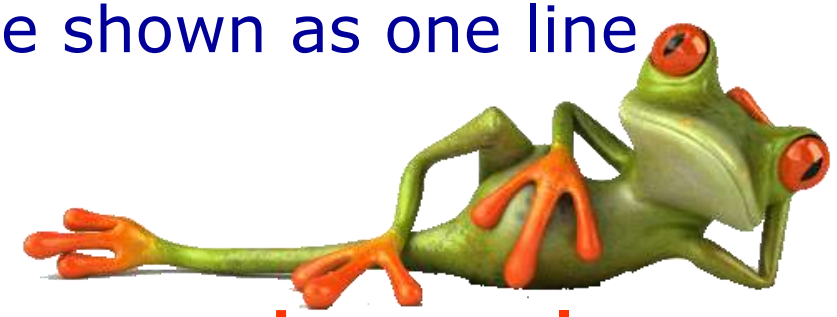
- Haulers, Cities, Homes Associations, Individual Residents, Waste Facilities
  - Increased Costs
  - Change to services
  - Increase in services
  - Convenience/ inconvenience
  - Cart sizes and bags

Timeline

- Started drafting Code in 2008
- Meeting with Haulers and Facilities in 2009
- Meeting with all the cities throughout 2009
- Endless presentations to HOAs and community groups
- Draft Code to stakeholders in 2010
- Revised Code
- Public Hearing in 2010
- Code passed in late 2010
- PAYT is implemented no later than 2012

Obstacles/challenges/lessons learned

- Education, education, education
  - Newsletter, newspaper, website, radio, bill inserts, presentations, events, fliers, etc.
- Open dialog with stakeholders
- Set realistic timeframes
- Some concessions help reach the overall goal
  - 95 gal versus 65 gal
  - Recycling and waste shown as one line item



www.jocorecycles.org

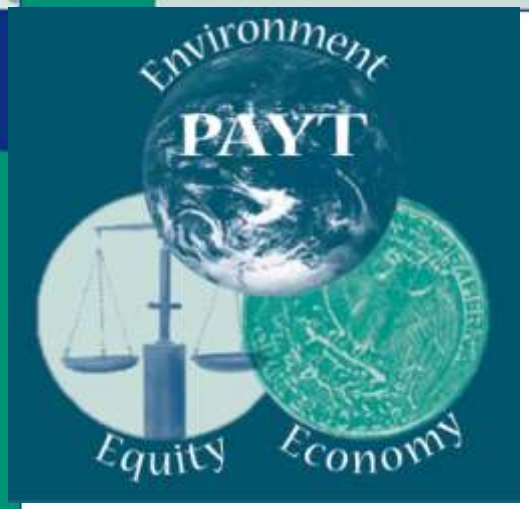
Obstacles and challenges with implementation at the city level

- Freedom to choose cart sizes.
- Freedom to choose haulers.
- Consideration of Zones.
- Hopes to reduce the number of trucks on the streets.

Our PAYT Language:

- All haulers licensed to collect residential waste must offer PAYT and unlimited recycling.
- Maximum volume may not exceed 95 gal.
- Charged based on volume of container, not volume of waste in container.
- Haulers must charge an additional fee for waste generated beyond the base volume that clearly incentivizes recycling.
- Must provide a readily identifiable system: stickers, bags, tags, etc.
- Prices may vary.

www.JoCoRecycles.org



Resources

PAYT Web Site

- Studies, reports, articles
- *PAYT bulletins*
- *Tool kit*
- *Frequently Asked Questions*
- *Fact sheets, success stories, lessons learned*
- Rate setting booklet
- *SMART BET (calculator)*

www.epa.gov/payt

Benefit Evaluation Tool (BET)

- Excel-based software using WARM's GHG emission factors and assumptions
- Quantitative Tool to promote PAYT
- Tailored for each individual Community to assess the economic/environmental impacts
- On PAYT webpage http://www.epa.gov/payt

SMART BET

Saving Money and Reducing Trash Benefit Evaluation Tool

Reset Inputs

1. General Information

City:	Olathe	State:	Kansas
Year of data:	2010	City population affected by SMART:	126,950

2. Disposal Data

Current residential disposal: 36,740 tons per year

Landfill/combustor tip fee: $ 31.00 per to

Waste Disposal Breakdown (tons)

☐ Use national average

		Disposal Practice (%):		
Landfill	36,740	100%	Distance to landfill	15 miles
Waste-to-energy (WTE)			Distance to WTE facility	miles

Current residential combined recycling and composting: 19,133 tons per year

Recycling cost: $ (34.89) per to

3. Waste Stream Composition

Current disposal stream composition by weight (%):

☑ Use national average

Metal	9%	9%
Glass	7%	7%
Plastic	20%	20%
Paper	26%	26%
Wood	9%	9%
Food Scraps	21%	21%
Yard Trimmings	8%	8%
Total	100%	100%

Note:
Mac users may encounter an error when selecting the "Use national average" boxes. If this should occur, enter the percentages listed to the right of the white entry boxes to use national average values.

Current combined recycling and compost stream composition by w

☑ Use national average

Metal	9%	9
Glass	4%	4
Plastic	3%	3
Paper	56%	56
Wood	2%	2
Food Scraps	1%	1
ard Trimmings	26%	26
Total	100%	100

Click to see the results

SMART BET

Saving Money and Reducing Trash Benefit Evaluation Tool

Results for Olathe, Kansas for 2010

Results

Estimated cost savings from implementing SMART:	$268,013 *	
Estimated GHG savings from implementing SMART: (compared to current disposal practice)	12,120	metric tons CO_2 equivalent per year*
Equivalent to annual emissions from:	2,220	passenger vehicles*

* Positive number indicates cost savings or GHG savings; negative number indicates increased cost or GHG emissions.

Benchmark

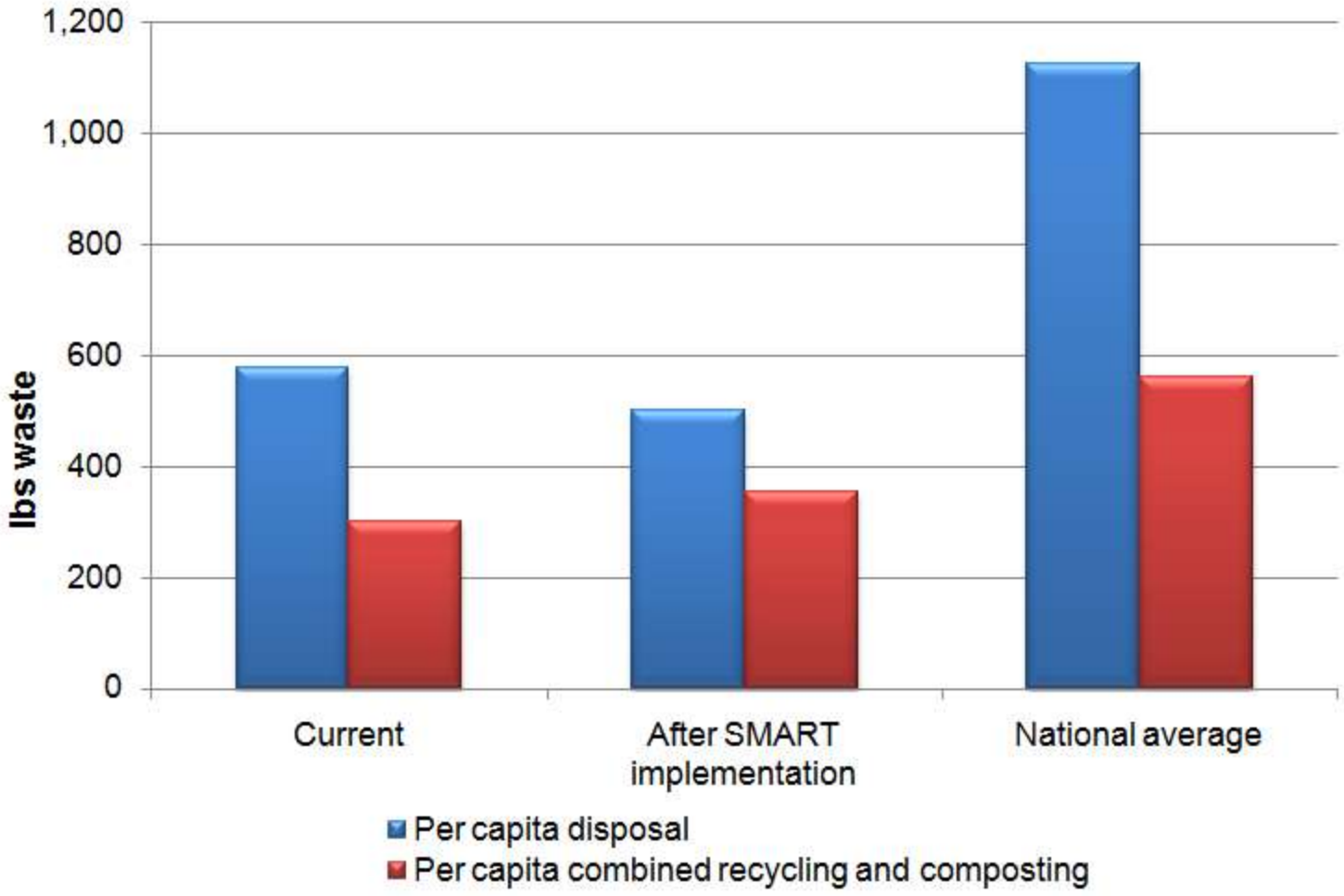
	Annual residential disposal per capita		Annual combined recycling and composting per capita	
Your current rate:	579	lb	301	lb
Your rate after SMART implementation:	500	lb**	352	lb
National average rate:	1,124	lb	562	lb

** Estimated typical rate of disposal following SMART implementation. Your actual results may vary depending on demographic and existing waste dispo characteristics.

Click to go back to inputs

Click to go to graphics

Per Capita PAYT Benchmarks for Olathe, Kansas in 2010



Costs for Olathe, Kansas in 2010

	Pre-PAYT			Post-PAYT			Effect of PAYT on Recovery (Recycling and Comp		
	Generation tons/yr	Recycling tons/yr	Discards tons/yr	Generation tons/yr	Recycling tons/yr	Discards tons/yr	Incremental Recovery tons/yr	MTCO2E/yr, Compared to Disposal - AVERAGE Landfill Practices	MTCO2E Disposal - Landf
Metal	5,120	1,712	3,408	4,956	2,001	2,944	290	(1,535)	
Glass	3,374	762	2,612	3,243	891	2,256	129	(41)	
Plastic	7,714	495	7,219	7,339	579	6,236	84	(131)	
Paper	20,232	10,711	9,521	19,825	12,523	8,225	1,812	(5,900)	
Wood	3,562	313	3,249	3,394	365	2,807	53	(102)	
Food Scraps	7,966	192	7,774	7,559	224	6,716	32	(29)	
Yard Trimmings	7,905	4,948	2,957	7,793	5,786	2,554	837	120	
Total	**55,873**	**19,133**	**36,740**	**54,107**	**22,370**	**31,738**	**3,237**	**(7,617)**	
						5,002	**Difference between pre- and post-PAYT discards**		

35%	increase in source reduction due to PAYT, Skumatz	17	decrease in disposal, by weight, due to PAYT, Skumatz p. 5
35%	increase in recycling due to PAYT, Skumatz	6	increase in recycling, by weight, due to PAYT, Skumatz p. 5
30%	increase in composting due to PAYT, Skumatz	5	increase in composting, by weight, due to PAYT, Skumatz p. 5
		6	increase in SR by weight, due to PAYT, Skumatz p. 5

	Generation percentage
Metal	9%
Glass	6%
Plastic	14%
Paper	37%
Wood	6%
Food Scraps	14%
Yard Trimmings	14%

Adam Brundage:
This assumes that 35 % of the undiscarded post-PAYT materials are source reduced.

Adam Brundage:
This assumes that 65 % of the undiscarded post-PAYT materials are recycled.

Victoria Thompson:
If the default percentages are used, make this column draw from cells I24-I30 on the Lists sheet.

Adam Brundage:
This is functional now...

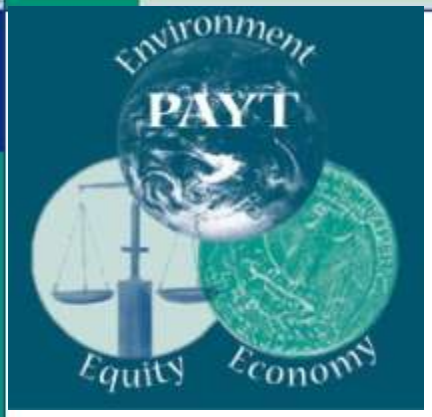
EPA WasteWise Program

Recognizes and supports Partners who commit to reducing waste and report on their results

Benefits include:

- Access to WasteWise Re-TRAC – a web-based tracking and reporting tool.
- Recognition and networking opportunities.
- Technical assistance

www.epa.gov/wastewise



Jennifer Dawani, EPA Region 7

913-551-7162

Dawani.jennifer@epa.gov

Julie Coon, Johnson County

913-715-6938

Julie.coon@jocogov.org